

Appl. No. 10/734,194

Reply to Office action of October 13, 2005

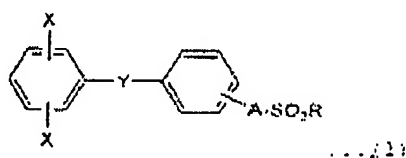
Response dated January 12, 2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (withdrawn) An aromatic sulfonate derivative represented by the formula (1):



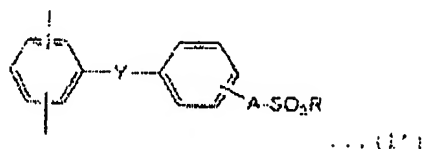
wherein X is a halogen atom other than fluorine, a $-\text{OSO}_2\text{CH}_3$ group or a $-\text{OSO}_2\text{CF}_3$ group; Y is a divalent organic group; A is $-(\text{CH}_2)_m-$ or $-(\text{CF}_2)_m-$ (wherein m is an integer of 1 to 10); and R is a C_{4-20} hydrocarbon group.

Claim 2 (withdrawn) The aromatic sulfonate derivative as claimed in Claim 1, wherein Y in the formula (1) is an electron-attracting group.

Claim 3 (withdrawn) The aromatic sulfonate derivative as claimed in Claim 1, wherein Y in the formula (1) is $-\text{CO}-$ or $-\text{SO}_2-$ group.

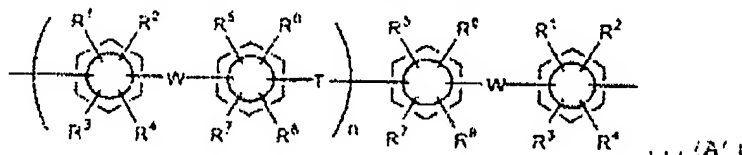
Claim 4 (withdrawn): A polyarylene comprising structural units derived from an aromatic compound, wherein at least part of the structural units are represented by the formula (1'):

Appl. No. 10/734,194
 Reply to Office action of October 13, 2005
 Response dated January 12, 2006



wherein Y is a divalent organic group; A is $-(CH_2)_m-$ or $-(CF_2)_m-$ (wherein m is an integer of 1 to 10); and R is a C_{1-20} hydrocarbon group.

Claim 5 (withdrawn): The polyarylene as claimed in Claim 4, which comprises 0.5-100 mol% structural units represented by the formula (1') and 0-99.5 mol% structural units represented by the following formula (A'):



wherein R1 to R8, which may be the same or different, are independently at least one atom or group selected from the group consisting of a hydrogen atom, a fluorine atom, and alkyl, fluorine-substituted alkyl, allyl and aryl groups; W is a divalent electron-attracting group; and T is a divalent organic group.

Claim 6 (withdrawn) A sulfonated polyarylene obtained by hydrolysis of the polyarylene of Claim 4 or 5.

Claim 7 (withdrawn) A production method of sulfonated polyarylene, comprising

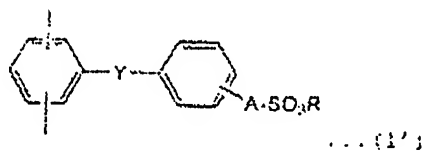
Appl. No. 10/734,194
 Reply to Office action of October 13, 2005
 Response dated January 12, 2006

coupling polymerization of an aromatic compound that contains at least the aromatic sulfonate derivative of Claim 1 and hydrolysis of the resultant polyarylene.

Claim 8 (Canceled)

Claim 9 (Canceled)

10. (New) A macromolecular solid electrolyte comprising a sulfonated polyarylene obtained by hydrolysis of a polyarylene comprising structural units derived from an aromatic compound, wherein at least part of the structural units are represented by the formula (1'):



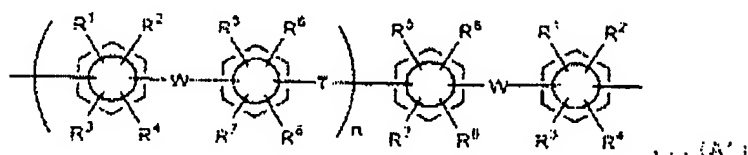
wherein Y is a divalent organic group; A is $-(CH_2)_m-$ or $-(CF_2)_m-$ (wherein m is an integer of 1 to 10); and R is a C_{1-20} hydrocarbon group.

Appln. No. 10/734,194

Reply to Office action of October 13, 2005

Response dated January 12, 2006

11. (New) The macromolecular solid electrolyte of claim 10 wherein the sulfonated polyarylene comprises 0.5-100 mol % structural units represented by the formula (1') and 0-99.5 mol % structural units represented by the following formula (A'):



wherein R₁ to R₈, which may be the same or different, are independently at least one atom or group selected from the group consisting of a hydrogen atom, a fluorine atom, and alkyl, fluorine-substituted alkyl, allyl and aryl groups; W is a divalent electron-attracting group; and T is a divalent organic group.

12. (New) A proton conductive membrane for fuel cells that contains the macromolecular solid electrolyte of claims 10 or 11.